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IS 10860 (1984): Carpenters' Wooden Bodied Bead Planes [PGD 6: Earth, Metal And Wood Working Hand Tools]

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Bhartṛhari—Nītiśatakam
“Knowledge is such a treasure which cannot be stolen”

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UDC 674.056 : 621.911.2

IS : 10860 - 1984

Indian Standard

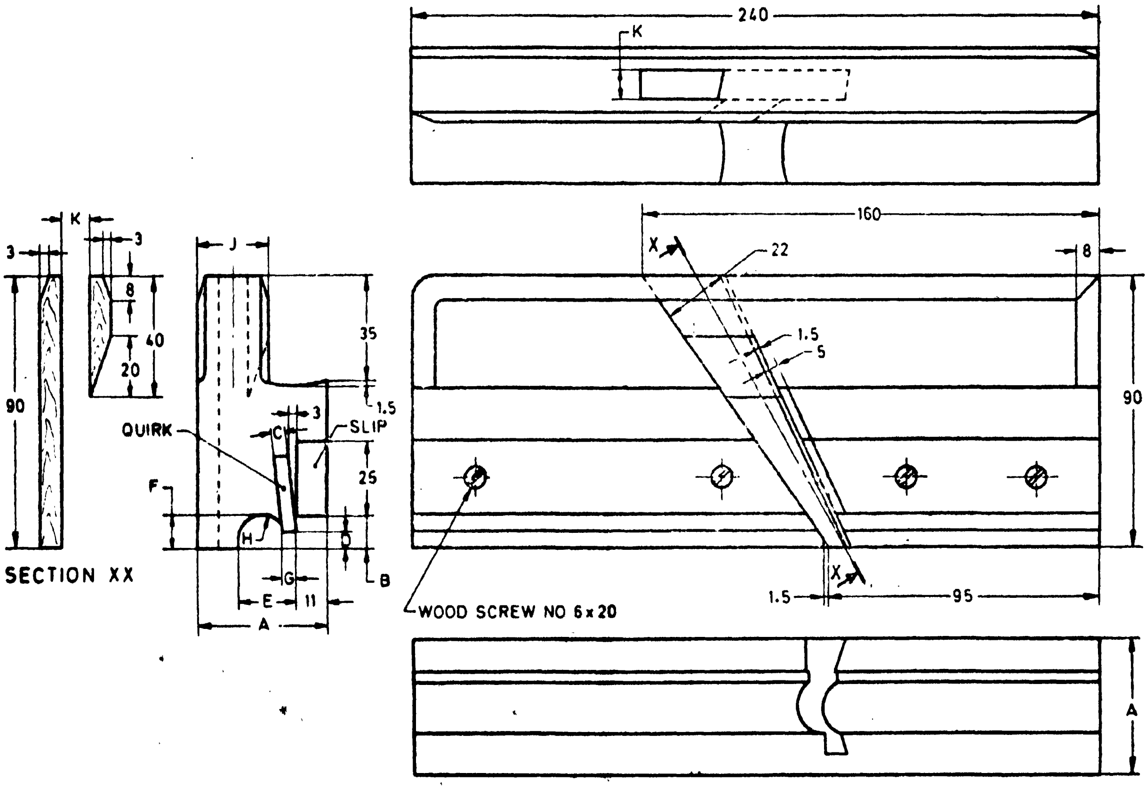
SPECIFICATION FOR CARPENTERS' WOODEN BODIED BEAD PLANES

Hand Tools Sectional Committee, EDC 12; Wood Working and Carpenters' Tools Subcommittee, EDC 12 : 6 [Ref : Doc : EDC 12 (3936)]

1. Scope — Covers the requirements for carpenters' wooden bodied bead planes.

2. Dimensions

2.1 *Body*



All dimensions in millimetres.

Nominal Size	*A*	*B*	*C*	*D*	*E*	*F*	*G*	*H* rad	*J*	*K*
6.3	30	5	3	2.5	6	4	1	2.5	20	8
9.5	35	7	3	3	10	6	1.5	4	20	8
12.5	40	10	3	5	12	9	2.5	5	25	10
19	45	11	5	5.5	20	11	3	8	25	10

Adopted 19 January 1984

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Gr 2

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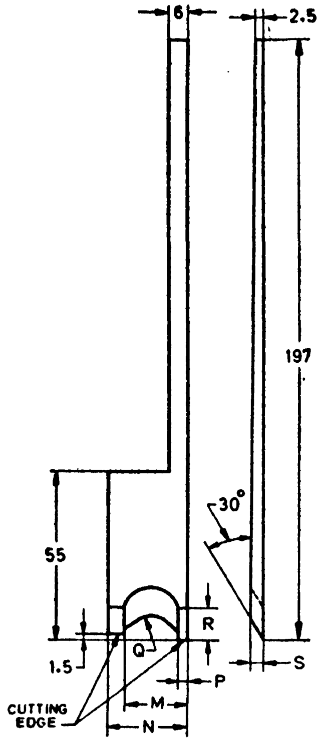
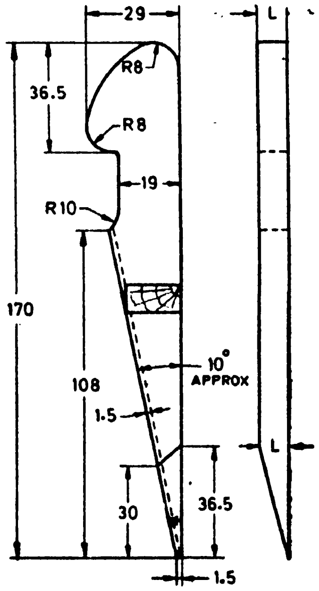
2.2 *Cut Iron*



All dimensions in millimetres.

Nominal Size	*M*	*N*	*P*	*Q* rad	*R*	*S*
6·3	6·3	11	1	3	4	2·5
9·5	9·5	16	1·5	4	5·5	3
12·5	12·5	20	2·5	5	7	4
19·0	19·0	25	3	7	10	4

2.3 *Wedge*



All dimensions in millimetres.

Nominal Size	*L*, mm
6·3	6
9·5	6
12·5	9
19·0	9

AMENDMENT NO. 1 MAY 1996
TO
IS 10860 : 1984 SPECIFICATION FOR CARPENTERS' WOODEN BODIED BEAD PLANES

(*Page* 3, *clause* **2.6**) — Substitute 'IS 2102 (Part 1) : 1993 General tolerances : Part 1 Tolerances for linear and angular dimensions without individual tolerance indications (*third revision*)' *for* 'IS : 2102 (Part 1) - 1980 General tolerances for linear and angular dimensions (*second revision*)'.

(*Page* 3, *clause* **3.3**, *line* 2) — Substitute 'IS 1570 (Part 2/Sec 1) : 1979 Schedules for wrought steels : Part 2 Carbon steels (unalloyed steels), Section 1 Wrought products (other than wire) with specified chemical composition and related properties (*first revision*)' *for* 'IS : 1570 (Part 2) - 1979 Schedules for wrought steel : Part 2 Carbon steels (unalloyed steel) (*first revision*)'.

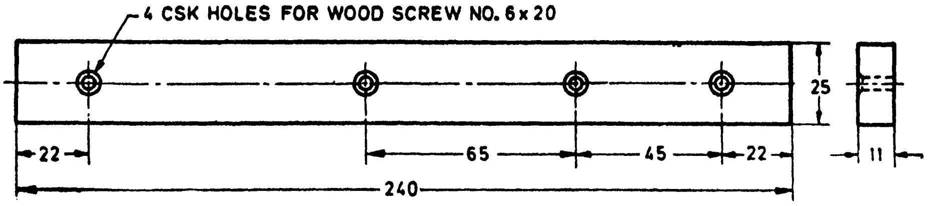
(*Page* 4, *clause* **8.1**) — Substitute 'IS 2500 (Part 1) : 1992 Sampling inspection procedures : Part 1 Attribute sampling plans indexed by acceptable quality level (AQL) for lot-by-lot inspection (*second revision*)' *for* 'IS : 2500 (Part 1) : 1973 Sampling inspection tables : Part 1 Inspection by attributes and by count of defects (*first revision*)'.

(*Page* 4, *clause* **8.2**) — Substitute 'Tables I and II-A of IS 2500 (Part 1) : 1992' *for* 'Tables 1 and 2 of IS : 2500 (Part 1) - 1973'.

(PE 07)

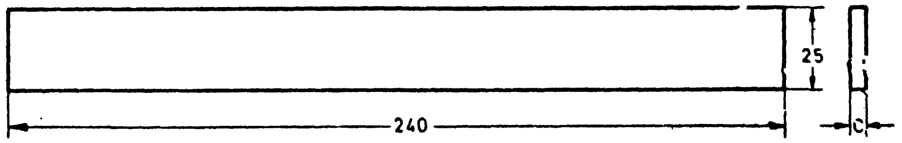
Reprography Unit, BIS, New Delhi, India

2.4 *Slip*



All dimensions in millimetres.

2.5 *Quirk*



All dimensions in millimetres.

Nominal Size mm	*C* mm
6·3	3
9·5	3
12·5	3
19	5

2.6 *Tolerances* — Tolerances on dimensions shall be in accordance with medium class of IS : 2102 (Part 1)-1980 'General tolerances for linear and angular dimensions (*second revision*)'.

3. Material

3.1 *Body, Wedge and Slip* — These shall be manufactured from an even textured wood capable of sliding easily on the surface of wood and with a hardness sufficient to avoid rapid deterioration of the sole in operation. Beach (*Fagus spp.*), Ash (*Fraximus spp.*), Babul (*Acacia arabica*), Sissoo (*Dalbergia Sissoo*), Wal Nut (*Juglan spp.*), and Lock (*Quereus spp.*) are some of the suitable species of wood.

3.2 *Quirk* — Shall be manufactured from any one of the timbers, like Box-wood (*Buxus Sem pervirens*), Gardenia (*Gardenia spp.*), Olive (*Olea cuspidata*), and Parrotia (*Parrotia jacquementiano*).

3.3 *Cut Iron* — Shall be manufactured from high carbon steel 75C6, 85C6, 98C6 or 113C6 conforming to IS : 1570 (Part 2)-1979 'Schedules for wrought steel : Part 2 Carbon steels (unalloyed steel) (*first revision*)', or alloy steel confirming to 10VCrl of schedule IV of IS : 1570-1961 'Schedules for wrought steels for general engineering purposes'.

It may also be manufactured from carbon steel, T-110 schedule VI of IS : 1570-1961, having phosphorus and sulphur contents, each 0·035 percent maximum.

3.3.1 A composite cutter shall consist of a high carbon or alloy steel cutting tip with remainder of the cutter manufactured from low carbon steel. In case of the composite cutters the cutting tip shall be manufactured from the material mentioned above.

3.4 *Wood Screws* — Wood screws shall conform to designation 6×20 mm of IS : 6760-1972 'Specification for slotted countersunk head wood screws'.

4. Manufacture, Workmanship and Finish

4.1 *Body, Wedge, Slip and Quirk* — Well selected straight grained timber thoroughly seasoned having moisture content between 8 to 12 percent shall be used for the manufacture of these components. The timber used shall also be free from defects like sapwood, centre heart, pitch, knots, splits, checks, warping, insects or any kind of decay which is likely to affect the life of these components.

4.1.1 These shall be finished smooth all over. The mouth in the body shall be accurately cut for the irons to bed firmly. They shall be impregnated with row linseed oil.

The quirk and slip shall be properly fitted to the body. The quirk shall be included in the radius of the bead sufficiently and shall meet the body in a flat angle so that the edge of the body shall not splinter off while in use. The slip shall be so screwed to the body that its bottom edge shall form a stop when the bead is worked to the correct depth.

4.2 *Cut Iron* — Shall be free from cracks, seams, pits, scales, burrs and other manufacturing defects. They shall be polished bright and finished smooth all over except at the cutting edge.

4.2.1 The cutting edge shall be ground sharp and ready for final honing.

5. Hardness — Cut irons, shall have hardness between 650 to 750 *HV* up to a distance of 30 mm from the cutting edge. It may gradually reduce thereafter.

6. Tests

6.1 *Performance Test* — After fitting the cut irons to its wooden bodied plane it shall be tested on any one of the hard timbers like Kusum, Babul, Sissoo, Anjan, Nesua, or Hopea. It shall plane satisfactorily and the cutting edge of the iron shall show no sign of damage or distortion after the test.

6.2 *Striking Test* — The flat face of the cut iron, about 25 mm from the cutting edge, shall be struck by hard blow to the edge of a mild steel block. The cut iron shall show no sign of damage or distortion after the test.

7. Marking — The body of the planes and the cut irons shall be legibly and indelibly marked/stamped with the manufacturer's name or initials or recognised trade-mark, nominal size, and the year of manufacture.

7.1 *ISI Certification Marking* — Details available with the Indian Standards Institution.

8. Sampling

8.1 Unless otherwise agreed to between the buyer and the seller, the procedure given in IS : 2500 (Part 1)-1973 'Sampling inspection tables : Part 1 Inspection by attributes and by count of defects (*first revision*)' shall be followed for sampling inspection.

8.2 To determine the conformity for the requirements of this standard, the single sampling plan corresponding to inspection level IV and acceptable quality level (AQL) 2·5 percent given in Tables 1 and 2 of IS : 2500 (Part 1)-1973 shall be followed for sampling inspection.

EXPLANATORY NOTE

While preparing this specification, considerable assistance has been derived from the Joint Services Specification JSS 5110-32 'Planes bead and planes bead irons', issued by the Ministry of Defence, Government of India.

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